

Serial No.: 10/604,420
Confirmation No.: 1419
Applicant: HÅKANSSON, Nils-Olof
Atty. Ref.: 07589.0124.PCUS00

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

1. (Cancelled)

2. (Currently Amended) ~~The system as recited in claim 1,~~

A system for automatically topping up an internal combustion engine with lubricant, the sump of which has a predefined lubricant level, said system comprising:

a lubricant container that is connected to the internal combustion engine and an apparatus for transferring lubricant between the container and the sump;

a level pipe connected to the container being positioned in the internal combustion engine, a mouth of which pipe is positioned at the level of the predefined lubricant level; and

the apparatus for transferring lubricant comprising a reversible pump adapted to transfer lubricant both from the container to the internal combustion engine and from the internal combustion engine to the container, the reversible pump being ~~wherein the system is actuated~~
after a predefined time delay after the engine has been stopped.

3. (Original) The system as recited in any one of claims 2, 4 and 7 ~~claim 1~~, wherein the pump (3) is electrically operable.

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4. (Currently Amended) ~~The system as recited in claim 3,~~

A system for automatically topping up an internal combustion engine with lubricant, the sump of which has a predefined lubricant level, said system comprising:

a lubricant container that is connected to the internal combustion engine and an apparatus for transferring lubricant between the container and the sump;

a level pipe connected to the container being positioned in the internal combustion engine, a mouth of which pipe is positioned at the level of the predefined lubricant level; and

the apparatus for transferring lubricant comprising a reversible pump adapted to transfer lubricant both from the container to the internal combustion engine and from the internal combustion engine to the container and wherein the pump (3) is controlled by a control unit, the control signal of which is a function of at least one of the following parameters: fuel consumption, driving distance, total number of engine revolutions, the number of starts, accumulated calculated oil consumption, external temperature ~~or~~ and engine temperature, and in that the control signal is preferably a function of the fuel consumption or the fuel consumption in combination with one or more of the other parameters.

5. (Original) The system as recited in claim 3, further comprising:

a detection apparatus which can detect whether lubricant is being transferred from the internal combustion engine to the container and/or from the container to the internal combustion engine.

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6. (Original) The system as recited in claim 5, wherein the detection apparatus consists of a pressure monitor (13) and/or a current detector.

7. (Currently Amended) ~~The system as recited in claim 5,~~

A system for automatically topping up an internal combustion engine with lubricant, the sump of which has a predefined lubricant level, said system comprising:

a lubricant container that is connected to the internal combustion engine and an apparatus for transferring lubricant between the container and the sump;

a level pipe connected to the container being positioned in the internal combustion engine, a mouth of which pipe is positioned at the level of the predefined lubricant level; and

the apparatus for transferring lubricant comprising a reversible pump adapted to transfer lubricant both from the container to the internal combustion engine and from the internal combustion engine to the container and wherein the system is configured so that the transfer of lubricant takes place in more than one cycle.

8. (Original) The system as recited in claim 5, wherein the system, after having pumped a predefined number of cycles without having detected that lubricant is being transferred, generates a message signal.

9. (Original) The system as recited in claim 5, wherein the system has a service position for topping up the internal combustion engine with lubricant.

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10. (Currently Amended) A method of topping up an internal combustion engine with lubricant, comprising the steps of:

topping up with more lubricant than necessary;
drawing off surplus lubricant via a level pipe; and
executing said steps after a predefined time delay after the engine has been stopped.

11. (Original) The method as recited in claim 10, further comprising:

detecting that topping up with lubricant is taking place.

12. (Original) The method as recited in claim 10, wherein the combination of steps is carried out a number of times in succession.

13. (Original) The method as recited in claim 10, further comprising:

detecting that topping up with a sufficient quantity of lubricant has taken place.

14. (Original) The method as recited in claim 10, further comprising, if the control system has detected that either topping up with lubricant has not taken place and/or topping up with a sufficient quantity of lubricant has not taken place, sending a message via the control system to an operator.

15. (New) The system as recited in claim 4, wherein the control signal is a function of fuel consumption.

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16. (New) The system as recited in claim 4, wherein the control signal is a function of fuel consumption and at least one of: driving distance, total number of engine revolutions, the number of starts, accumulated calculated oil consumption, external temperature and engine temperature.